

slender body; but distinguished by its pale antennæ and the male ventral characters. In *P. marginata* male the fourth ventral segment has a simple line of bristles.

Pepsis sommeri Dahlb.

Violet-blue, antennæ black; abdomen verging to green in the male. Wings red with dusky margin, the apex subhyaline; base of wings, more broadly in the male, black. First abdominal segment, especially in the female, short and broad; groove on second ventral segment deep in the female, moderate in the male.

Male.—Fourth ventral segment simple, without bristles; fifth, not hairy, margin scarcely sinuate; sixth, like preceding species; seventh, filling sinus, polished, a minute sinus in middle; eighth, with a transverse median ridge beyond centre, the sides of the ridge connecting with oblique carinæ extending forward to the sides of the segment at the base; apex thinner, polished, bent downwards at a right angle and its tip forming two rounded lobes separated by an equal sinus.

Claspers: sagittæ flat, much curved, apices pointed below and contiguous, a minute tooth near base within, sagittæ equal in length with the two flattened, parallel median pieces, the median pieces curved dorsad and pointing downward at apex; outer pieces little longer, flat; hairy apex little thickened and subobtusely pointed.

Size of P. cærulea. Habitat.—Poway, Calif. (F. E. Blaisdell).

Differs from *P. cærulea* in fuscous wing margin and in eighth segment. Body is less slender than in *P. marginata*.

In discussing this communication Mr. Ashmead said that he had identified *Pepsis marginatus*, one of the species referred to by Mr. Patton, in a collection made by Mr. Cordley in New Mexico. He had previously received it also from the same locality.

—Mr. Ashmead read the following paper:

SYNOPSIS OF THE NORTH AMERICAN SPECIES OF TOXONEURA SAY.

By WM. H. ASHMEAD.

The Braconid genus *Toxoneura* was described fifty-eight years ago by Thomas Say, in the first volume of the Boston Journal of Natural History, 1835, page 258.

Although quite a characteristic genus, it yet remained for years unknown to our entomologists.

In 1865 Mr. E. T. Cresson, in his paper entitled "On the Hymenoptera of Colorado Territory," redescribed it under the name of *Tenthredoides* with one species *T. seminiger*.

A few years afterwards, however, he recognizes his mistake, and in 1873, in the *Canadian Entomologist*, vol. v, p. 54, acknowledges the synonym and gives an excellent synoptic table of the species known to him at that time in the North American fauna.

In this paper he enumerates 12 species, 8 being described for the first time, and, of these, four were from Mexico. He also gave valid reasons for believing Say was wrong in placing his *Bracon populator* in this genus.

Cresson here recognizes the original spelling of the genus *Toxoneuron*, but in his "synopsis," 1886, changes it to *Toxoneura*, but without giving his reason for doing so. As this change seems to have been universally followed, I have not thought it worth while to restore the original name.

Toxoneura has now been made the type of a subfamily, *Toxoneurinae*, and a position assigned it between the *Ichneutinae* and the *Helconinae*. It appears to me, however, that this is an unnatural position, as it has no affinities whatever with these groups. All its affinities are entirely with the *Agathidinae* and the *Microgasterinae*; the structure of the abdomen closely resembles many forms in the latter, while all its other characters, except venation (although here, too, there is still a resemblance to some exotic forms), are those of the former.

If the genus is not referred to the subfamily *Agathidinae*, in my opinion the *Toxoneurinae* should, at least, be placed next to them.

Comparatively little is known of our species. Messrs. Riley and Howard have recorded in *Insect Life*, vol. iii, page 60, the rearing of *Toxoneura minuta* Cr., at Kirkwood, Mo., from a Tineid *Gelechia prunifoliella* Chambers, found on Peach, while I have in my own collection a specimen of *Toxoneura tibiator* Say reared from a Lepidopterous Leaf-roller on Black Locust.

Although this is all we know of the habits of our species, it is quite evident the genus is parasitic only on Lepidopterous larvæ.

Below I give a synoptic table of the species found in our fauna north of Mexico, and describe three new forms: one from Florida, *T. floridana*, in my collection, and two, *T. pluto* and *T. californica*, from California, in the U. S. National Museum:

TABLE OF SPECIES.

Body not entirely black.....	2
Body entirely black.	
Wings black or fuliginous.	
Vestiture black.	
Legs entirely black.....	T. pluto, sp. n.
Vestiture pale or grayish.	

Legs black; anterior knees and tarsi honey-yellow or pale; tibial spurs white.....T. minuta Cr.

Legs black; anterior legs, except coxæ and trochanters, yellowish-red; tibial spurs on middle and hind legs black.....T. floridana, sp. n.

Legs, except the coxæ, trochanters, and base of femora, reddish-yellow; hind tarsi fuscous; large species..... T. californica, sp. n.

Legs, except the coxæ and trochanters and the hind tarsi, which are black, reddish-yellow; smaller species.....T. explorator Say.

Wings hyaline, the apex fuliginous.

Legs black; anterior pair, except base, honey-yellow.....T. apicalis Cr.

Legs black; anterior tibiæ and tarsi, base of middle tibiæ, their tarsi, and an annulus at base of hind tibiæ, white or pale yellowish.....T. tibiator Say.

2. Black; head, pro- and meso-thorax and anterior legs flavo-ferruginousT. thoracica Cr.

Head and thorax black; abdomen fulvo-ferruginous; anterior margin of clypeus and legs, except coxæ and trochanters, ferruginousT. abdominalis Cr.

Reddish or orange-yellow.

Head, antennæ, metathorax, and pleura black; stigma black.....T. seminigra Cr.

Head mostly sanguineous; pleura beneath and metathorax black; stigma yellow..... T. viator Say.

(1) *Toxoneura pluto*, sp. n.

♀.—Length, 7.5 mm. Black, highly polished, covered with a sparse pubescence; mandibles and palpi black; antennæ 42-jointed; a little longer than the body; scutellum with a punctate frenum; metathorax areolated and coarsely rugose; mesopleura with a large crevate furrow; wing black, a white spot at origin of first transverse cubital vein, and another at apex of the second abscissa of radius and including the base of the third abscissa and the apex of the second transverse cubital. Abdomen depressed, the basal segment the largest, bisulcate; ovipositor scarcely exerted.

Hab.—Los Angeles, California.

Type in National Museum.

(2) *Toxoneura minuta* Cress.

Toxoneuron minutum Cr. Can. Ent. v, p. 67.

Toxoneura minuta Cr. Syn. Hym., p. 230.

♀.—Length, 2.5 mm. Black, shining, faintly punctate, sparsely sericeous; wings subfuliginous, iridescent, the stigma and nervures dark brown or blackish, with the second submarginal cell a little shorter than the first; legs black, tibial spurs white; anterior knees, their tibiæ, four

anterior tarsi, except tips and middle knees, pale yellowish; abdomen oval, the ovipositor prominent.

Hab.—Illinois, Missouri.

Type in Coll. American Entomological Society.

This species has been reared by Miss Mary Murtfeldt, at Kirkwood, Mo., from *Gelechia prunifoliella*.

(3) *Toxoneura floridana*, sp. n.

♂.—Length, 7 mm. Black, polished; tips of mandibles and anterior legs, except coxæ and trochanters, alone yellowish-red; trophi and middle and hind legs, except a piceous tinge on the knees of middle legs, entirely black; tibial spurs on middle and hind legs black.

Head impunctate; eyes pubescent; clypeus with a median furrow; thorax trilobed, the middle lobe triangular; metathorax coarsely rugose, with a large central area; wings blackish fuliginous, the stigma and nervures black, the second abscissa of radius scarcely more than twice as long as the first. Abdomen oblong-ovate, depressed, the first segment about as large as the second and third united, the second shorter than the third, with the sutures between deeply impressed, the following segments shorter but about equal in length.

Hab.—Jacksonville, Fla.

Type in Coll. Ashmead.

(4) *Toxoneura californica*, sp. n.

♀.—Length, 6 mm. Polished black, sparsely punctate; metathorax and mesosternum rugose, the former not areolated; mandibles and palpi black; abdomen subcompressed, the ventral valves large, prominent, plow-share shaped. Antennæ 27-jointed, shorter than the body. Wings subfuliginous, the first abscissa of radius less than one-third the length of the second, the second transverse cubital and the second abscissa of radius at their junction hyaline. Legs, except coxæ, trochanters and base of the femora, reddish-yellow; hind tarsi fuscous.

Hab.—Los Angeles, California.

Types in National Museum.

Allied to *T. explorator* Say, but much larger; the ovipositor shorter, scarcely projecting beyond the apex of abdomen, the face and clypeus more strongly punctate, while the wings are paler at base.

(5) *Toxoneura explorator* Say.

Bracon explorator Say. Bost. Journ. Nat. Hist., i, p. 259.

Toxoneuron explorator Lec. Ed. Say, ii, p. 710; Cress. Can. Ent., v., p. 67.

Toxoneura explorator Cr. Syn. Hym., p. 230.

♀.—Length, 3.75 mm. Black, polished; mandibles, at the middle, rufopiceous; palpi piceous; face shining, sparsely microscopically punctate; antennæ 29-jointed; thorax with smooth impressed parapsidal furrows; metathorax rugose. Wings subfuliginous, the stigma large, the second abscissa of radius a little more than twice as long as the first. Legs, ex-

cept the coxæ, trochanters, and posterior tarsi, which are black, reddish-yellow; the middle femora is sometimes black at base. Abdomen compressed, black, shining; the ovipositor very prominent, nearly half the length of abdomen.

Hab.—Indiana, Missouri, and Colorado.

A single ♀ is in the National Museum, bred August 12, 1881, from an unknown *Tortrix*.

(6) *Toxoneura apicalis* Cr.

Toxoneuron apicale Cr. Can. Ent., v, p. 68.

Toxoneura apicalis Cr. Syn. Hym., p. 230.

♂.—Length, 5mm. Black, shining, clothed with a very short dull pubescence; sutures of mesothorax not crenulated; metathorax with strongly developed elevated lines; wings hyaline, the apex fuliginous, leaving base of marginal and of second cubital cells hyaline; nervures and stigma black; legs black; anterior femora, except base and their tibiæ entirely, bright orange-yellow; intermediate knees slightly tinged with testaceous. (Cresson.)

Hab.—Illinois.

Unknown to me.

(7) *Toxoneura tibiator* Say.

Bracon tibiator Say. Long's Second Exped., ii, p. 322.

Toxoneuron tibiator Lec. Ed. Say., ii, p. 710; Bost. Jour., i, p. 259; Cr. Can. Ent., v, p. 68.

♀.—Length, 5mm. Black; wings hyaline, fuscous at apex; the nervures stout, dark brown; legs black; the anterior tibiæ and tarsi, base of middle tibiæ, their tarsi and an annulus at base of hind tibiæ, white or pale yellowish. Abdomen oval, depressed.

Hab.—Atlantic coast from Florida to Canada, and west to Kansas.

Not rare in the Eastern States. In my collection is a single specimen reared some years ago by Mr. C. L. Marlatt, at Manhattan, Kansas, from a Lepidopterous Leaf-roller on Black Locust.

(8) *Toxoneura thoracica* Cr.

Toxoneuron thoracicum Cr. Can. Ent., v, p. 68.

♂ ♀.—Length, 5 mm. Black, shining; head, prothorax, mesothorax, spot beneath tegulæ, and anterior legs, except coxæ, trochanters, and base of femora, pale ferruginous; spot on cheeks beneath, mouth, more or less of clypeus, and a spot between ocelli and eyes in ♂ black; wings uniformly blackish-fuliginous, nervures and stigma black; metathorax with strongly developed elevated lines, forming an ovate central area.

Hab.—Codova, Mexico, and Arizona.

Type in Coll. American Entomological Society.

The specimen from Arizona is in my collection, obtained through a collector.

(9) *Toxoneura abdominalis* Cr.

Toxoneuron abdominale Cr. Can. Ent., v, p. 68.

Toxoneuron abdominalis Cr. Syn. Hym., p. 230.

♀.—Length, 7 mm. Polished black, but sparsely minutely punctate; face and clypeus more closely punctate; clypeus anterior, posterior orbits, legs, except coxæ, trochanters, and hind tarsi, which are black, and the abdomen entirely pale sanguineous or yellowish-red; sheaths of ovipositor black; wings fuliginous, the stigma and nervures black; second submarginal cell longer than the first; metathorax rugose, areolated.

Hab.—Illinois, Missouri.

(10) *Toxoneura seminigra* Cr.

Tenthredooides seminiger Cr. Proc. Ent. Soc. Phil., iv, p. 291.

Toxoneuron seminigrum Cr. Can. Ent., v, p. 69.

Toxoneura seminigra Cr. Syn. Hym., p. 230.

♂ ♀.—Length, 7 to 7.5 mm. Yellowish-red, shining; head, antennæ, breast, metathorax, coxæ, and trochanters black; wings blackish-fuscous; metathorax coarsely rugose.

♀.—Head black, smooth, and polished, slightly pubescent; narrow inner and broad outer orbits, and basal margin of the clypeus, rufous; antennæ entirely black; thorax yellowish-red, smooth, and polished; mesothorax with two approximate black dots, sometimes confluent on the extreme margin, sometimes concealed by the head; pectus and the pleura, except the broad anterior margin, black; space on each side of the scutellum obliquely striated, its lower margin flat, polished and black, as well as the space on each side of the postscutellum; metathorax black, opaque, coarsely rugose, the disk having a longitudinal ovate excavation surrounded by a well-defined carina; tegulæ yellowish-red, bordered behind with black. Wings uniformly blackish-fuscous; nervures black; lower margin of the first submarginal cell, two dots at tip of prædiscoïdal cell, and a furcate line at tip of second submarginal cell where it joins the marginal, hyaline. Legs yellowish-red, the coxæ and trochanters black, the four posterior tarsi and tips of the femora within more or less dusky. Abdomen about as long as the thorax, broadly ovate depressed, polished, yellowish-red, basal segment, orange-yellow, with a more or less distinct black mark on the prominent dorsal middle; valves of the ovipositor robust, black.

♂.—Resembles the female, but the antennæ are as long as the body and the abdomen more depressed, less broad, and obtusely rounded at tip.

Hab.—Colorado. (Cresson.)

Types in Coll. American Entomological Society.

All the specimens of this species I have seen were taken in Colorado.

(11) *Toxoneura viator* Say.

Toxoneuron viator Say. Bost. Journ. Nat. Hist., i, p. 258; Cr.

Can. Ent., v, p. 67; Lec. Ed. Say, ii, p. 710.

Toxoneura viator Cr. Syn. Hym., p. 230.

♀.—Length, 6.2 mm.. Sanguineous; antennæ, vertex, face below antennæ extending almost to clypeus and including base of cheeks, mesopleura, pectus, and metathorax, black. Thorax polished, feebly micro-

scopically punctate, the furrows crenulate; antennæ 29-jointed; metathorax rugose, areolated. Wings fuliginous, with the costa and stigma yellowish, the other nervures robust, black, the second abscissa of radius fully three times as long as the first. Legs sanguineous, with the coxæ and trochanters black, the posterior tarsi dusky. Abdomen depressed, broadly oval, smooth; the ovipositor prominent, with black sheaths.

Hab.—Western States.

Not rare.

—Under the head of “Short Notes and Exhibition of Specimens,” Mr. Heidemann exhibited a new Capsid from the vicinity of Washington. He had tentatively placed it among his Acanthocorinæ, but upon closer examination he found it to be a true Capsid, and considered it to be a new genus near *Fulvius* of Stal.

—Mr. Schwarz exhibited specimens of the Floridian *Gononotus lutosus*, and remarked that the species is apparently identical with the previously described *Anchonus angulicollis* Suffr., upon which Mr. J. Faust has lately erected the genus *Nemosinus*. The name of the insect should, therefore, be *Gononotus angulicollis* Suffr. It was placed by Dr. Le Conte in the Calandridæ, while according to Faust it forms, with *Cotaster* and some other genera, a group of Curculionidæ allied to *Plinthus* and *Pissodes*.

—Mr. Johnson spoke of having collected a specimen of *Anthocharis genutia* in the vicinity of Washington on the 30th April. He had been much pleased at this capture, as the species is extremely rare near Philadelphia, where he resides. Mr. Schwarz remarked that this butterfly is peculiar in that it occurs only upon the range of hills immediately outside of Washington, never being found in the country beyond or in the city within this range.

JUNE 1, 1893.

Fifteen members present. The President, Prof. Riley, in the chair. Mr. Donald MacCuaig, chief clerk Department of Agriculture, was elected an active member, and President H. H. Goodell, of the Massachusetts Agricultural College, was elected a corresponding member.

Dr. Geo. Marx read the following paper: